HEATHKIT® MANUAL

HEATH COMPANY • BENTON HARBOR, MICHIGAN

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HEATH COMPANY
BENTON HARBOR, MI. 49022

Prices and specifications subject to change without notice.

Heathkit® Manual

for the

ELECTROSTATIC AIR CLEANER

Model GD-1247

595-2178

HEATH COMPANY
BENTON HARBOR, MICHIGAN 49022

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INTRODUCTION

The GD-1247 Electrostatic Air Cleaner is designed to remove 99%* of all airborne pollen, and 94%* of the airborne particles passing through it. Thus, it allows you to enjoy a "refreshing experience in clean air living."

The console is completely portable. It can be economically and effectively operated in the home, apartment, office, or laboratory. The Electrostatic Air Cleaner provides clean air and a more refreshing atmosphere, and it also reduces the need for cleaning, painting, and redecorating caused by airborne polution that stains and soils furniture, rugs, walls, and drapes. All of the wires have push-on connectors, which eliminates the need for soldering (except in the 240 V, 50 Hz model, which has three solder connections). The Electrostatic Air Cleaner is both a good investment and a handsome addition to your decor.

UNPACKING AND ASSEMBLY INSTRUCTIONS

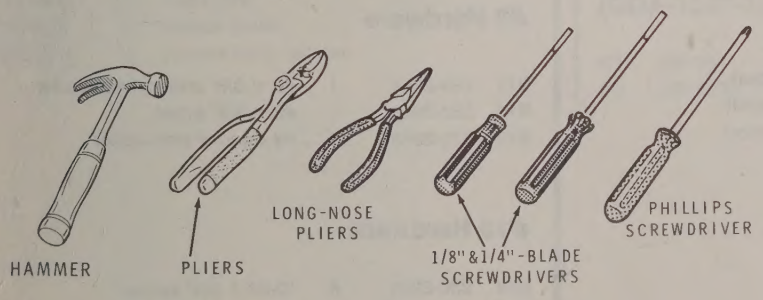
Your GD-1247 Electrostatic Air Cleaner is shipped in two separate cartons. The first carton is marked 1 of 2 and contains the electronics. The second carton is marked 2 of 2 and contains the cabinet.

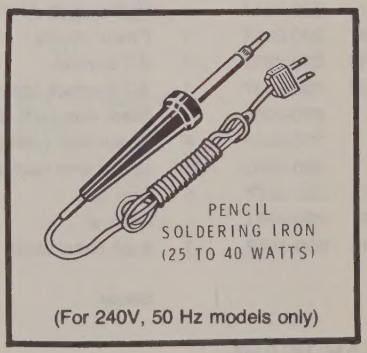
Follow the Manual instructions carefully, and read the entire step before you perform the operation. Position all parts as shown in the Illustration. These illustrations are called Pictorials and Details. Pictorials show the overall operation for a single group of assembly steps. Details generally illustrate a single step. When you are directed to a Pictorial for the following steps, continue to use that pictorial until you are referred to another pictorial for another group of steps.

A separate "Illustration Booklet" contains illustrations (Parts Pictorials, Pictorials, Details, etc.), that are too large for the Assembly Manual. The Step-By-Step Assembly Instructions will direct you to the proper illustration in the Booklet. After you have completed the assembly of your kit, place the Illustration Booklet with the Assembly Manual and save them for future reference.

TOOLS

You will need these tools to assemble your kit.





*National Bureau of Standards Dust Spot Method and American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 52-68.

PARTS LIST

Check each part against the following list. The key numbers in the Parts List correspond to the numbers on the Parts Pictorial (Illustration Booklet, Page 1). Parts may vary slightly from the illustrations; only the hardware is shown actual size.

Some parts are packaged in containers with the part number marked on the outside. Except for the initial parts check, keep these parts in their containers so they can be easily identified when they are called for in the assembly steps.

Save all packaging material until all parts have been located.

To order a replacement part, use the Parts Order Form furnished with this kit. If a Parts Order Form is not available, refer to "Replacement Parts" inside the rear cover of this Manual. For prices, refer to the separate "Heath Parts Price List."

120 V, 60 Hz MODEL ASSEMBLIES

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.
A1	230-2908	1	Motor	
A2	230-2916	1	Speed control	
	230-2929	2'	Green wire (with connectors)	
	230-2964	5"	White wire (with connectors)	
A3	230-2933	1	Power supply	
A4	230-2954	1	AC bracket	
A5	230-2956	1	AC interlock connector	
A6	230-2958	1	Connector adapter	
A7	230-2975	1	Line cord	
A8	230-2976	1	Line cord retainer clip	
A9	230-2980	1	Cabinet	
A10	390-1481	1	Back panel label	

240 V, 50 Hz MODEL ASSEMBLIES

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.
A1	230-2909	1	Motor	
A2	230-2917	1	Speed control	
A3	230-2934	1	Power supply	
A11	230-2955	1	AC bracket	
A12	230-2957	1	AC interlock connector	
	230-2965	5"	Black wire (with connector)	
	230-2966	4"	Green wire (with connector)	
	230-2967	29"	Green wire (with connector)	
A13	230-2977	1	Line cord	
A9	230-2981	1	Cabinet	
A10	390-1482	1	Back panel label	
			Solder	

HARDWARE

NOTE: Hardware packets are marked to show the size of the hardware they contain (HDW #4, or, HDW #6 & #8, etc.). You may have to open more than one packet to locate all the hardware of any one size (#6, for example).

#4 Hardware

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.
B1	250-213	18	4-40 × 5/16" screw	
B2	252-2	18	4-40 nut	
B3	254-9	18	#4 lockwasher	

#6 Hardware

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.
B4	230-2924	1	6-32 × 1" screw	
B5	230-2925	2	#6 flat washer	
B6	230-2926	2	6-32 nut with external lockwasher	
B7	230-2932	12	#6 × 3/8" phillips-head screw	
B8	250-8	8	#6 × 3/8" screw	
B9	250-151	1	#6 × 1/2" wood screw	
B10	253-89	1	#6 "D" washer	

#8 Hardware

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.
B11	230-2914	1	#8 × 3/8" phillips-head screw	
B12	230-2962	1	#8 × 3/8" screw	
B13	230-2963	1	#8 external lockwasher	

#10 Hardware

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.
B14	230-2904	8	10-32 × 3/4" screw	
B15	230-2905	5	#10 split lockwasher	
B16	230-2906	4	#10 flat washer	
B17	230-2910	1	10-32 × 1-3/4" screw	
B18	230-2911	1	10-32" nut	
B19	230-2921	4	#10 × 1" phillips-head wood screw	

HEATHKIT®

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.

Other Hardware

C1	230-2918	1	Control nut
C2	230-2919	1	Control lockwasher
C3	230-2938	6	Nylon cap nut
C4	230-2940	1	Acorn nut
C5	230-2941	5	1/4-20 hex nut
C6	254-12	5	1/4" external lockwasher
C7	230-2943	19	1/4" nylon flat washer (includes 9 extra)
C8	230-2944	95	3/8" spacer (includes 2 extra)
C9	230-2961	1	Wire nut

BRACKETS — PLATES

D1	230-2903	1	Motor mounting bracket
D2	230-2915	1	Control plate
D3	230-2930	1	Right cellguide bracket
D4	230-2931	1	Left cellguide bracket
D5	230-2935	1	Left end ionizer collector plate
D6	230-2936	1	Right end ionizer collector plate
D7	230-2945	24	High voltage plate
D8	230-2946	7	Ground plate
D9	230-2947	1	Right ion support bracket
D10	230-2948	1	Left ion support bracket
D11	230-2952	2	Plain mounting bracket
D12	230-2972	1	Top retaining bracket

BRACES — FASTENER

E1	230-2950	2	Top brace
E2	230-2951	2	Bottom brace
E3	230-2953	3	Female back fastener

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.

MISCELLANEOUS

F1	74-4	1	Tape
F2	75-750	5	Grille fastener
F3	207-3	1	Cable clamp
F4	230-2901	1	Fanboard
F5	230-2907	1	Fan blade
F6	230-2920	1	16" × 13-1/4" wire screen
F7	230-2922	1	Control panel label
F8	230-2923	1	High voltage contactor
	230-2927	3'	Red wire (with connectors)
F9	230-2928	1	Lamp with connectors
F10	230-2937	6	Tie rod
F11	230-2939	6	Round insulator
F12	230-2949	10	Ionizing wire (220111-020) (includes 2 extra)
F13	230-2959	1	Cable tie
F14	230-2960	1	Knob
F15	230-2968	1	12" × 15-3/4" foam grille
F16	230-2969	1	5-1/2" × 13" foam grille
F17	230-2970	2	4" × 9-1/2" foam grille
F18	230-2971	1	Charcoal filter. **NOTE: When you order a replacement filter, use model number, GDA-1247-2**
F19	230-2973	3	1/4-turn fastener
F20	230-2974	3	Fastener clip
F21	390-1480	1	Model label
F22	391-34	1	Blue and white label
F23	490-5	1	Nut starter
F24	490-18	1	Allen wrench
		1	Assembly Manual (See Page 1 for Part Number.)
	597-260	1	Parts Order Form

OPTIONAL CASTER ASSEMBLY (GDA-1247-1)

G1	250-151	16	6" × 1/2" wood screw
G2	266-1009	4	Caster

STEP-BY-STEP ASSEMBLY

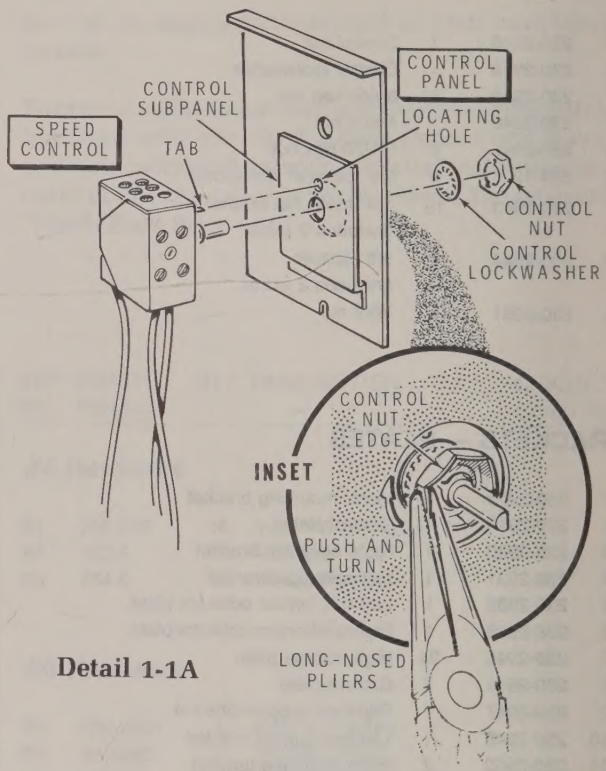
COMPONENT INSTALLATION

Refer to Pictorial 1-1 (Illustration Booklet, Page 3) for the following steps.

( ) Refer to Detail 1-1A and mount the speed control to the control subpanel with a control lockwasher and a control nut. Make sure the tab goes into the locating hole. Grasp the control nut edge with a pair of long-nosed pliers and with a pushing motion, turn the nut until it is tight against the lockwasher as shown in the inset drawing.

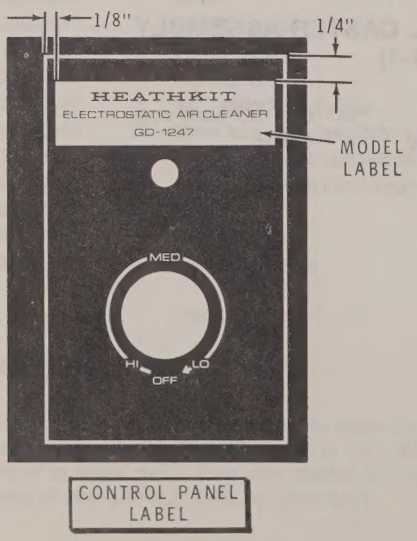
( ) Refer to Detail 1-1B Part 1 and remove the backing paper from the model label. Use the dimensions shown and press the label onto the control panel label.

( ) Refer to Detail 1-1B Part 2 and remove the backing paper from the prepared control panel label. Center the label holes with the control panel mounting holes and apply the label to the control panel. Fold the excess label tightly over the edge of the control panel.

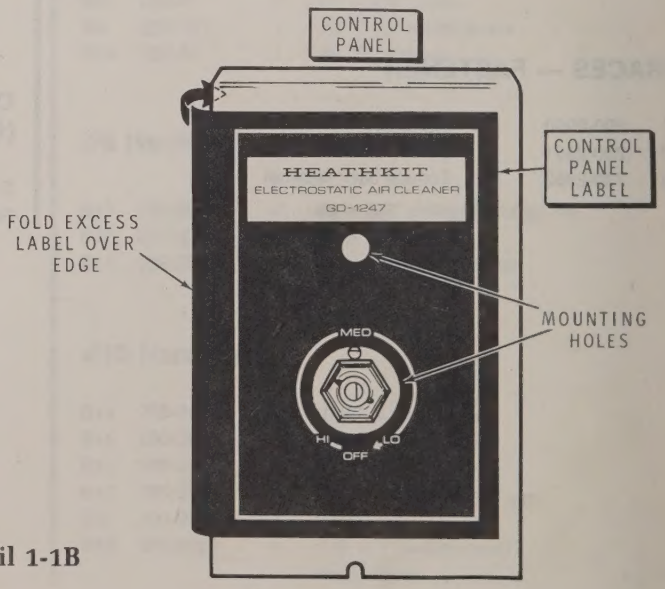


Detail 1-1A

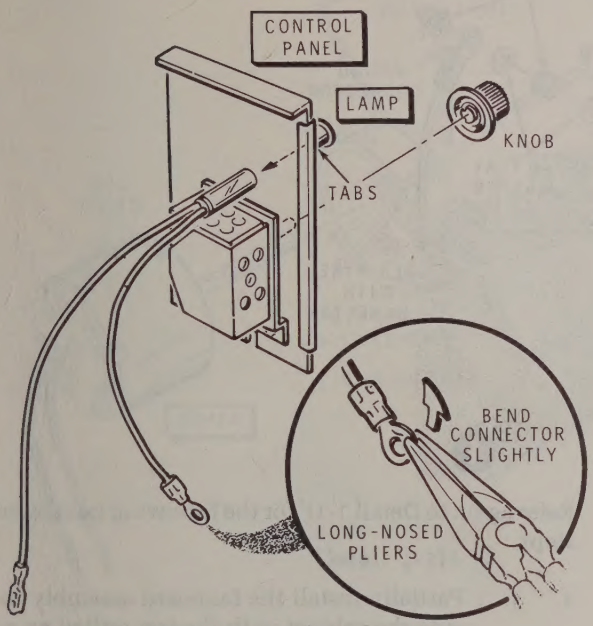
Part 1



Part 2



Detail 1-1B



Detail 1-1C

( ) Refer to Detail 1-1C and install the lamp with connectors on the control panel. NOTE: If the round lamp connector does not fit through the mounting hole, refer to the inset drawing and bend the connector over as shown. Make sure the lamp tabs seat in the mounting hole completely.

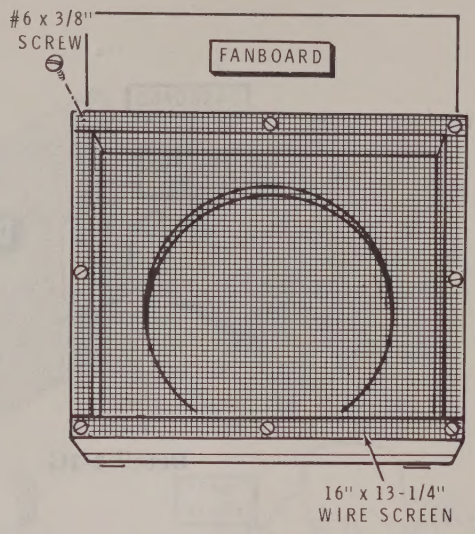
( ) If you had to bend the connector in the previous step, straighten it at this time.

( ) Refer to Detail 1-1C and push the knob onto the speed control shaft.

( ) Set the control panel assembly aside.

( ) Position the fanboard as shown in Detail 1-1D.

( ) Refer to Detail 1-1D and mount the 16" × 13-1/4" wire screen to the fanboard with eight #6 × 3/8" screws at the indicated locations.



Detail 1-1D

Refer to Detail 1-1E (Illustration Booklet, Page 4) for the following four steps.

( ) Locate the five grille fasteners. Separate the grille fastener halves by pulling them apart as shown in Part A of inset drawing #1. Discard only the soft half of each grille fastener.

( ) Refer to Part B of inset drawing #1 and cut the five grille fasteners in half.

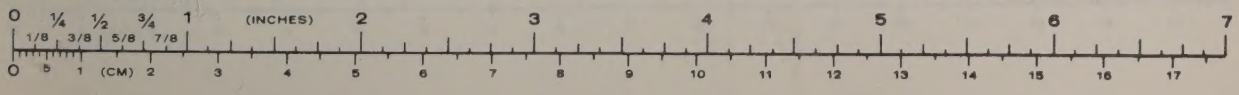
( ) Refer to Part C of inset drawing #1 and remove the backing paper from the hooked half of a grille fastener.

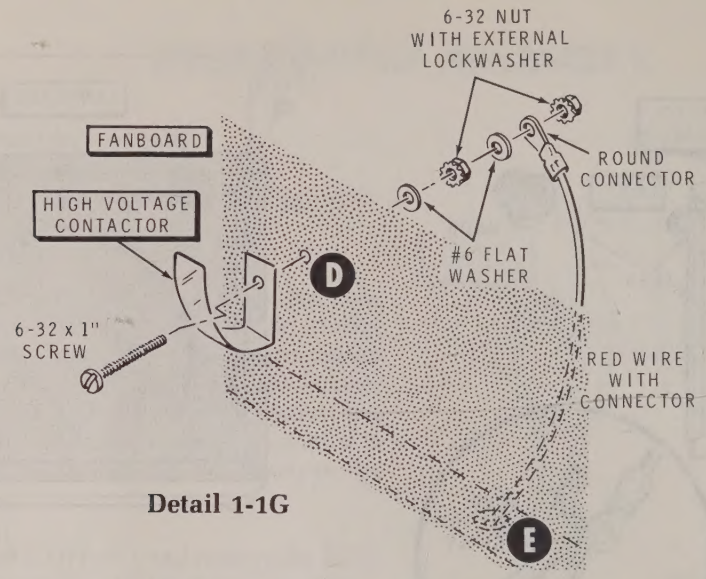
( ) Apply the fastener at any one of the indicated wire screen locations as shown in inset drawing #2. Use the approximate locations.

( ) Similarly install the remaining hooked grille fasteners on the remaining wire screen locations.

( ) Cut ten 1" pieces of tape.

( ) Refer to Detail 1-1E and apply a piece of tape to the adhesive side of each grille fastener from the opposite side of the wire screen as shown in the inset drawing. Press the tape firmly against each fastener.





Detail 1-1G

NOTE: A plastic nut starter is supplied to hold and start 6-32 and 4-40 nuts on the screws. Use this in the next step.

( ) Refer to Detail 1-1F (Illustration Booklet, Page 5) and route the round connector end of the red wire through fanboard holes F and E.

( ) Refer to Detail 1-1G and mount the high voltage contactor and the round connector on the end of the red wire with connectors at fanboard hole D. Use a 6-32 × 1" screw, two #6 flat washers, and two 6-32 nuts with external lockwashers. Tighten the contactor hardware first and the wire hardware last. NOTE: Refer to Pictorial 1-1 and make sure you mount the contactor on the correct side of the fanboard.

( ) Locate the green wire (with connectors). NOTE: If you have a 240 V, 50 Hz model, there will only be a round connector on this wire.

( ) Route the green wire (with connectors) on the front side of the fanboard assembly and insert the round connector end of the wire through fanboard hole B. Push the other connector out through fanboard hole C. NOTE: On 240 V, 50 Hz models, the round connector should be at fanboard hole B also. The other end without a connector will be at hole C.

Refer again to Detail 1-1F for the following numbered steps.

1. ( ) Partially install the fanboard assembly inside the cabinet with the top pulled away from the cabinet front panel as shown.

2. ( ) Route the short lamp wire with the round connector through fanboard holes A and B. NOTE: Both wires at hole B should have round connectors on them.

3. ( ) Route the remaining lamp wire and the three speed control wires through fanboard holes A and C. You will connect these wires later.

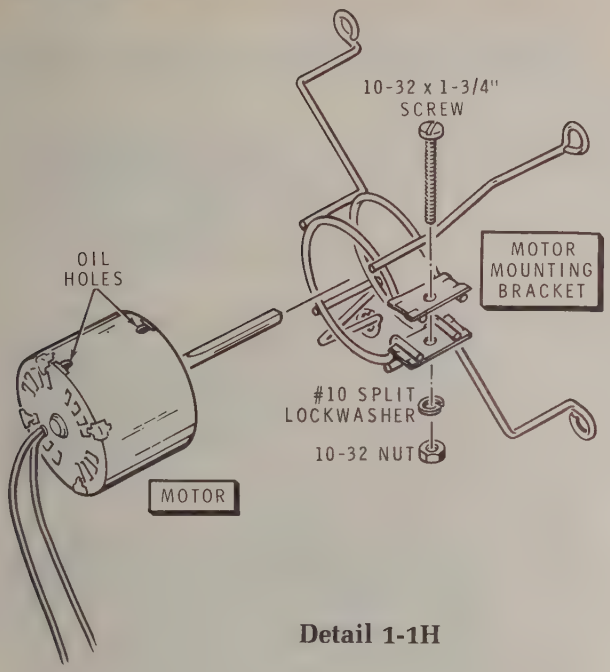
4. ( ) Position the control panel through the front panel opening and allow it to hang loose.

Refer again to Pictorial 1-1 for the following steps.

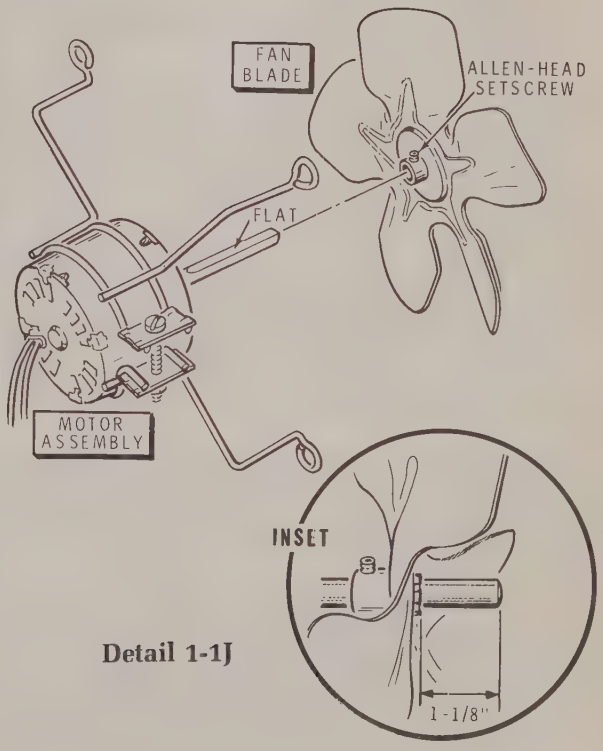
Mount the fanboard to the inside of the cabinet as follows:

( ) Press the top front edge of the fanboard tightly against the inside of the cabinet front panel.

( ) Position the bottom front edge of the fanboard 1/2" from the inside edge of the front panel as shown in the inset drawing. Keep the fanboard tight against the floor of the cabinet.



Detail 1-1H



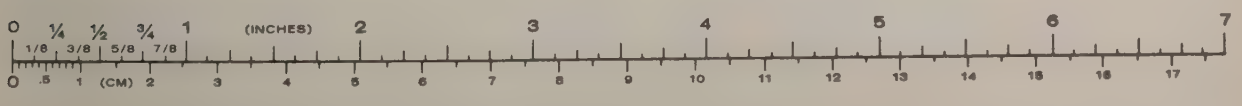
Detail 1-1J

( ) Mount the fanboard to the cabinet sides with four #10 × 1″ phillips-head wood screws.

( ) Refer to Detail 1-1H and mount the motor in the motor mounting bracket with a 10-32 × 1-3/4″ screw, a #10 split lockwasher, and a 10-32 nut. Position the oil holes as shown.

( ) Refer to Detail 1-1J and mount the fan blade on the motor shaft. Make sure the allen-head screw tightens onto the flat part of the shaft. Position the fan 1-1/8″ from the end of the motor shaft as shown in the inset drawing.

( ) Loosely mount the motor mounting bracket assembly to the fanboard with four 10-32 × 3/4″ screws, #10 split lockwashers, and #10 flat washers. Spin the fan with your finger to make sure it does not rub against the fanboard, and then tighten the screws. NOTE: It may be necessary to slightly bend the bracket to position the fan properly.



Refer to Pictorial 1-2 (Illustration Booklet, Page 6) for the following steps.

( ) Mount the left cellguide bracket to the left side of the cabinet with two #6 × 3/8″ phillips-head screws. Center the bracket mounting holes over the cabinet pilot holes. Position the wire connector tab as shown.

( ) Similarly, mount the right cellguide bracket to the right side of the cabinet with two #6 × 3/8″ phillips-head screws as shown. Center the bracket mounting holes over the cabinet pilot holes and make sure the narrow track is on the bottom as shown.

( ) Refer to the inset drawing #1 and install a female back fastener in a plain mounting bracket as shown.

( ) Mount the plain mounting bracket assembly to the left side of the cabinet with two #6 × 3/8″ phillips-head screws. Center the bracket mounting holes over the cabinet pilot holes.

( ) Similarly, install a female back fastener in the remaining plain mounting bracket. Mount the bracket assembly to the right side of the cabinet with two #6 × 3/8″ phillips-head screws. Center the bracket mounting holes over the cabinet pilot holes.

( ) Mount the top retaining bracket to the cabinet top with two #6 × 3/8″ phillips-head screws. Center the bracket mounting holes over the cabinet pilot holes.

( ) Position the power supply over the mounting holes on the cabinet bottom as shown. Mount the supply with **three** 10-32 × 3/4″ screws at holes BA, BB, and BC. Position the power supply mounting connectors toward the center of the cabinet. The other screw will be installed later.

COMPONENT WIRING

Refer to Pictorial 1-3 (Illustration Booklet, Page 7) for the following steps.

( ) Connect the free end of the black wire and the green wire coming from fanboard hole B to the left cellguide wire connector tab. Use a #8 × 3/8″ screw and a #8 external lockwasher. Tighten this hardware securely.

( ) Refer to inset drawing #1 and install a cable clamp around the red wire coming from fanboard hole F and mount the clamp to the cabinet bottom at the indicated location G with a "D" washer and #6 × 1/2″ wood screw. Make a pilot hole before you install the wood screw. Position the clamp as shown.

( ) Connect the free end of the remaining lamp wire coming from fanboard hole C to the power supply **LIGHT** tab. This lamp wire is the smaller of the two black wires coming from fanboard hole C.

( ) Connect the free end of the red wire coming from fanboard hole C to the power supply **INPUT** tab. Make sure you use the indicated tab.

( ) Hold the free end of the white wire coming from fanboard hole C together with the end of the motor wire without a connector. Twist the wire ends together and install a wire nut as shown, inset drawing #2. Make this nut tight. NOTE: On the 240 V, 50 Hz model, the ends of both motor wires are bare. Use either wire.

You will connect the red wire coming from fanboard hole F later on.

NOTE: If you have a 120 V, 60 Hz model air cleaner, proceed to "120 V, 60 Hz Wiring." If you have a 240 V, 50 Hz model air cleaner, proceed to "240 V, 50 Hz Wiring."

120V, 60 Hz Wiring

Refer to Pictorial 1-4 (Illustration Booklet, Page 8) for the following steps.

( ) Locate the AC bracket, AC interlock connector, and female back fastener.

( ) Install the female back fastener on the AC bracket.

( ) Mount the AC interlock connector to the AC bracket with two 4-40 × 5/16″ screws, #4 lockwashers, and 4-40 nuts. Make sure you position the interlock on the correct side of the bracket as shown.

( ) Mount the AC bracket assembly to the cabinet with two #6 × 3/8″ phillips-head screws. Position the bracket mounting holes over the cabinet pilot holes.

( ) Connect the free end of the green wire (with connectors) coming from fanboard hole C to the power supply **GROUND** tab.

( ) Locate the white wire (with connectors).

( ) Connect either end of the white wire (with connectors) to the remaining power supply **INPUT** tab.

( ) Connect the black wire coming from fanboard hole C to AC interlock connector lug 1.

( ) Locate the connector adapter.

( ) Connect the free end of the white wire coming from the power supply **INPUT** tab to either tab of the connector adapter.

( ) Connect the remaining motor wire to the other tab of the connector adapter.

( ) Push the connector adapter assembly onto the AC interlock connector lug 2.

NOTE: The following step is a little more difficult than usual. Take your time when you perform it.

( ) Position the cable tie with the mounting hole shoulder as shown. Loosely install the cable tie around the wires as shown in the inset drawing. Pull all of the wires tight at fanboard hole C and route the wires along the cabinet floor as shown. There should be no loose wires to tangle in the fan blade. Insert the motor wires and wire nut inside the cable tie.

( ) Position the cable tie near the indicated power supply mounting hole and mount the tie at hole BD with a 10/32 × 3/4″ screw. Then pull the tie strap tightly around the wires. NOTE: Do not cut the end of the cable tie. This would present a sharp corner which could cause an injury when you are working in that area.

( ) Set the cabinet aside.

This completes the "120 V, 60 Hz Wiring." Proceed to "Ionizing Cell Assembly."

240V, 50 Hz Wiring

Refer to Pictorial 1-5 (Illustration Booklet, Page 9) for the following steps.

( ) Locate the AC bracket, AC interlock connector, and female back fastener.

( ) Install the female back fastener on the AC bracket.

( ) Mount the AC interlock connector to the AC bracket with two 4-40 × 5/16″ screws, #4 lockwashers, and 4-40 nuts. Make sure you position the interlock on the correct side of the bracket as shown.

( ) Mount the AC bracket assembly to the cabinet with two #6 × 3/8″ phillips-head screws. Position the bracket mounting holes over the cabinet pilot holes.

NOTES:

1. You will solder several connections in the following steps. Before you connect a wire to a lug, twist the bare wire strands tightly together so all the strands go through the hole. Then make a mechanically secure connection as shown in inset drawing #1 of Pictorial 1-5.

2. Make sure you apply sufficient heat and solder to each connection. When the connection cools, wiggle the wire near the connection to see if any wire strands are loose.

( ) Connect the remaining motor wire to AC interlock connector lug 1. Do not solder the connection.

( ) Connect the free end of the green wire coming from fanboard hole C to AC interlock connector lug 2. Do not solder the connection.

( ) Connect the black wire coming from fanboard hole C to AC interlock connector lug 3. Solder the connection.

( ) Push the connector on the end of the green wire onto the power supply **GROUND** tab. Connect the other end of the wire to AC interlock connector lug 2. Solder both wires at the connection.

( ) Push the connector on the end of the black wire onto the remaining power supply **INPUT** tab. Connect the other end of the wire to AC interlock connector lug 1. Solder both wires at the connection.

( ) Position the cable tie with the mounting hole shoulder as shown. Loosely install the cable tie around the wires as shown in inset drawing #2. Pull all of the wires tight at fanboard hole C and route them along the cabinet floor as shown. There should be no loose wires to tangle in the fan blade.

( ) Position the cable tie near the indicated power supply mounting hole and mount the tie at hole BD with a 10-32 × 3/4" screw. Then pull the tie strap tightly around the wires. NOTE: Do not cut the end of the cable tie. This would present a sharp corner which could cause an injury when you are working in that area.

Set the cabinet aside.

This completes the "240 V, 50 Hz Wiring." Proceed to "Ionizing Cell Assembly."

IONIZING CELL ASSEMBLY

Left End Collector Plate Assembly

Refer to Pictorial 2-1 (Illustration Booklet, Page 10) for the following steps.

( ) Position the left end ionizer collector plate as shown. This plate has no stamping printed on it.

( ) Locate two tie rods and install a 1/4" external lockwasher and hex nut on one end of each tie rod. The edge of the nut should be 1/8" from the end of the tie rod as shown in the inset drawing.

( ) Insert each of the two prepared tie rods through collector plate holes B and F as shown.

( ) Locate two tie rods and install a nylon cap nut, nylon flat washer, and a round insulator on one end of each tie rod. Position the round insulator shoulder as shown.

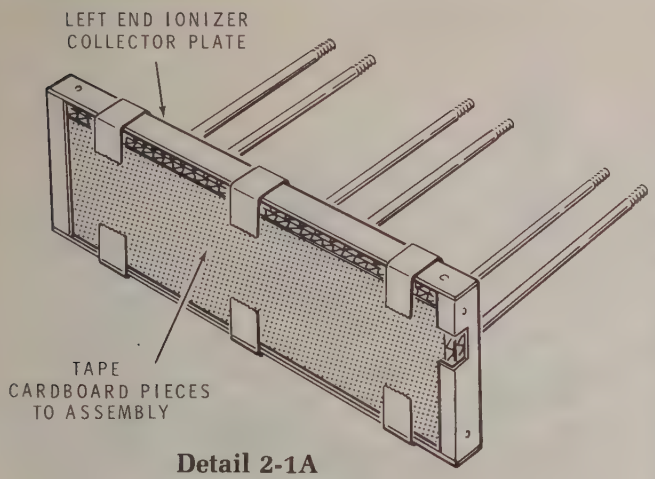
( ) Insert each of the two prepared tie rods through collector plate holes A and E.

( ) Install an acorn nut, nylon flat washer, and round insulator on one end of a tie rod.

( ) Insert the prepared tie rod through collector plate hole C.

( ) Install a nylon cap nut and a nylon flat washer on one end of a tie rod.

( ) Insert the prepared tie rod through collector plate hole D.

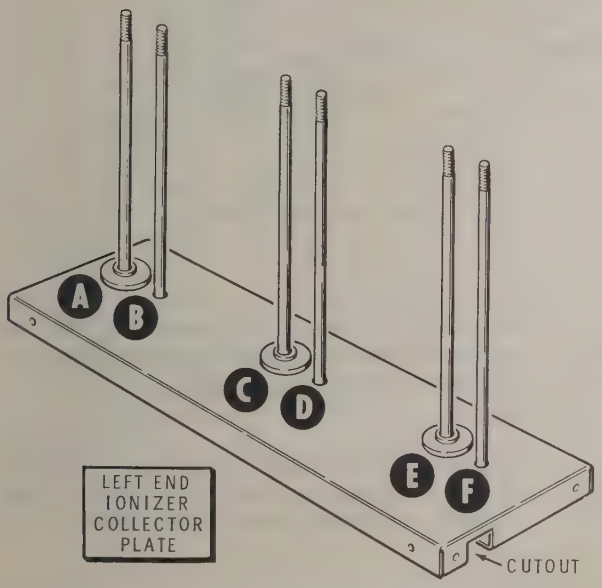


Detail 2-1A

( ) Use the cardboard inserts from your shipping carton and cut two 4" × 15" pieces.

( ) Refer to Detail 2-1A and tape the two cardboard pieces over the left end ionizer collector plate as shown. This will hold the tie rods in place during the cell assembly. Make sure the round insulator shoulders seat in the mounting holes.

( ) Refer to Detail 2-1B and turn the left end ionizer collector plate assembly over with the tie rods and cutout positioned as shown.



Detail 2-1B

High Voltage and Ground Plate Assembly

NOTE: When you assemble the ionizing cell in the following steps, you will refer to a series of four steps. Each step has an accompanying illustration. Perform the 4-step series eight times. Eight check off spaces are provided for each step. Read each step carefully and study the accompanying illustration **before** you perform the step. A mistake made early in the cell assembly will result in disassembly of the cell up to the point of the mistake. **Take your time.** Also, do not be concerned with the looks of the cell during assembly. It may seem at times that you have made a mistake; however, if you follow the steps carefully, no problems should occur.

Refer to Pictorial 2-2 (Illustration Booklet, Page 11) Part 1 for the following step.

( ) ( ) ( ) ( ) Install a high voltage plate with the
( ) ( ) ( ) ( ) three large holes at tie rods B, D, and F. Position the corner notch as shown. Install a 3/8" spacer over tie rods B, D, and F.

Refer to Pictorial 2-2 Part 2 for the following step.

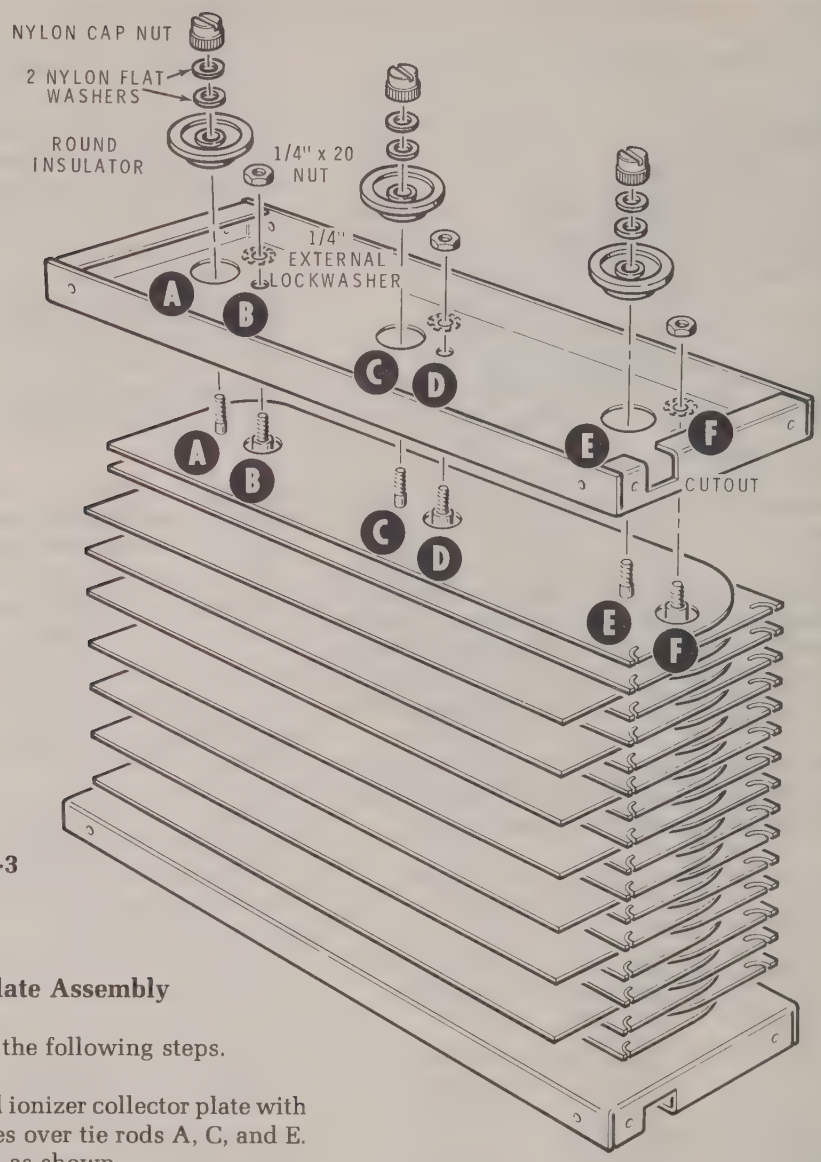
( ) ( ) ( ) ( ) Install a high voltage plate with the
( ) ( ) ( ) ( ) large holes at tie rods A, C, and E. Position the corner notch as shown. Install a 3/8" spacer over tie rods A, C, and E.

Refer to Pictorial 2-2 Part 3 for the following step.

( ) ( ) ( ) ( ) Install a high voltage plate with the
( ) ( ) ( ) ( ) large holes at tie rods B, D, and F. Position the corner notch as shown. Install a 3/8" spacer over tie rods B, D, and F. NOTE: When you complete this step for the eighth time, proceed to "Right End Collector Plate Assembly."

Refer to Pictorial 2-2 Part 4 for the following step.

( ) ( ) ( ) ( ) Install a ground plate with the three
( ) ( ) ( ) large holes at tie rods A, C, and E. Position the wide space as shown. Install a 3/8" spacer over tie rods A, C, and E.



PICTORIAL 2-3

Right End Collector Plate Assembly

Refer to Pictorial 2-3 for the following steps.

( ) Install the right end ionizer collector plate with the three large holes over tie rods A, C, and E. Position the cutout as shown.

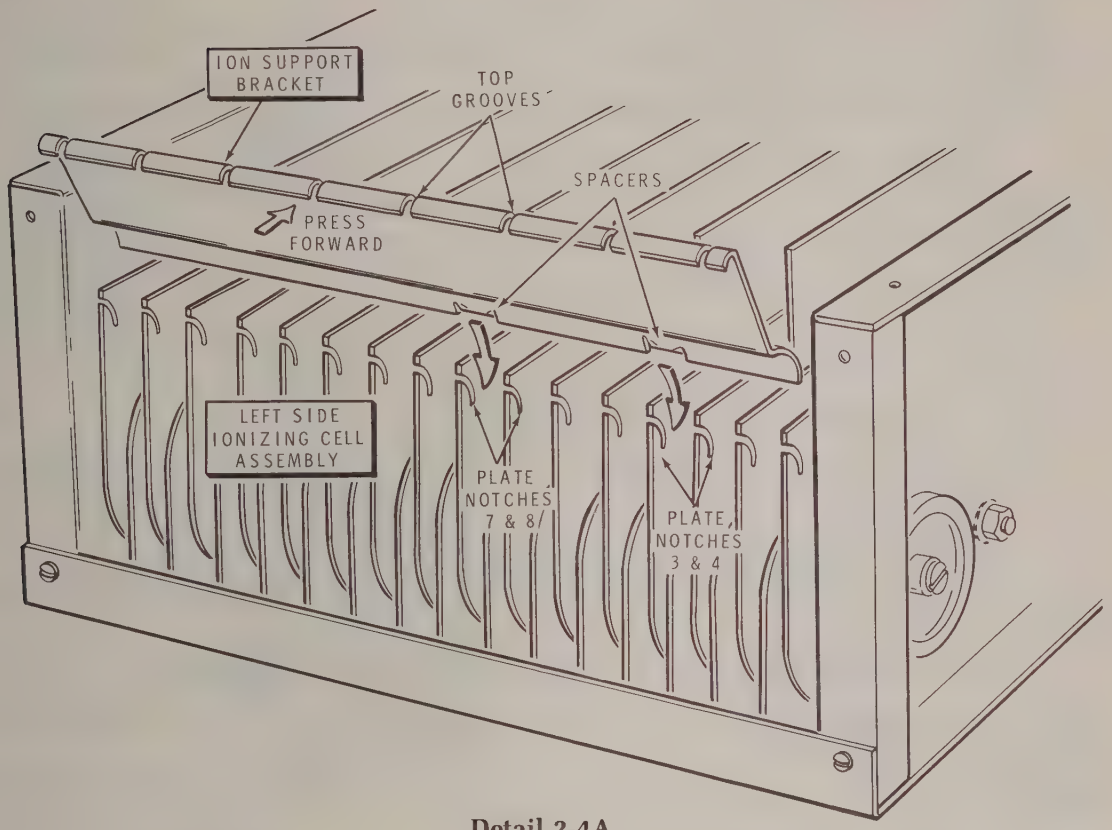
NOTE: The following step calls for **two** nylon flat washers. However, in some instances, the tie rods may be either too short or too long. If a tie rod is too short, remove one of the nylon flat washers. If a tie rod is too long for the nut to sufficiently tighten it, add a nylon flat washer.

( ) Install a round insulator, **two** nylon flat washers, and a nylon cap nut on the end of each tie rod at A, C, and E. Tighten the nylon cap nuts until they are snug. Do not lift the cell assembly.

( ) Install a 1/4" external lockwasher and 1/4" × 20 hex nut on the end of each tie rod at B, D, and F. Tighten the nuts finger tight.

( ) Lay the cell assembly down and remove the cardboard taped over the end of the tie rods. Tighten all of the hardware securely.

NOTE: You may have some spacers left over at this time. Set them aside.



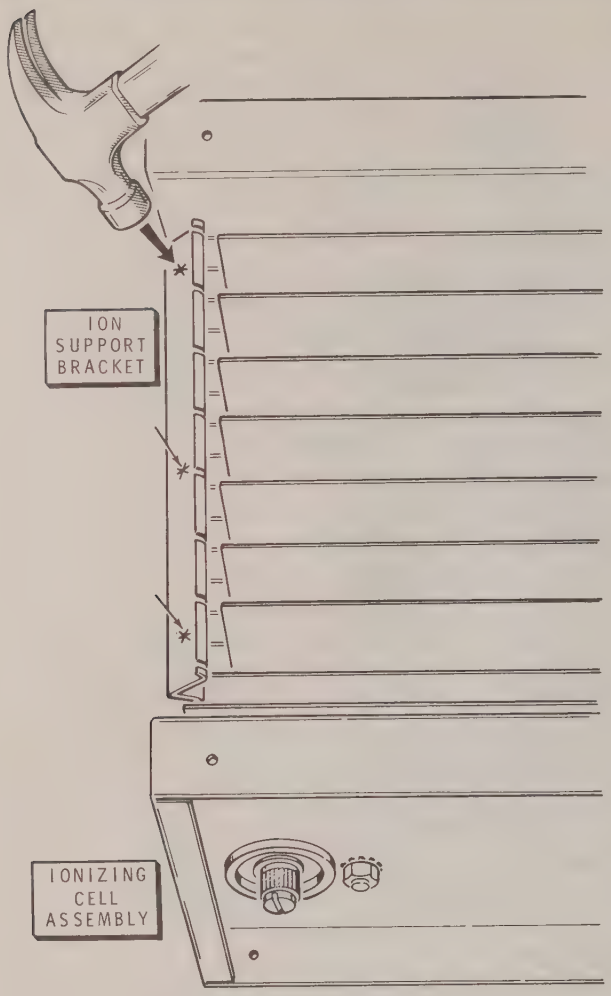
Detail 2-4A

Refer to Pictorial 2-4 (Illustration Booklet, Page 12) for the following steps.

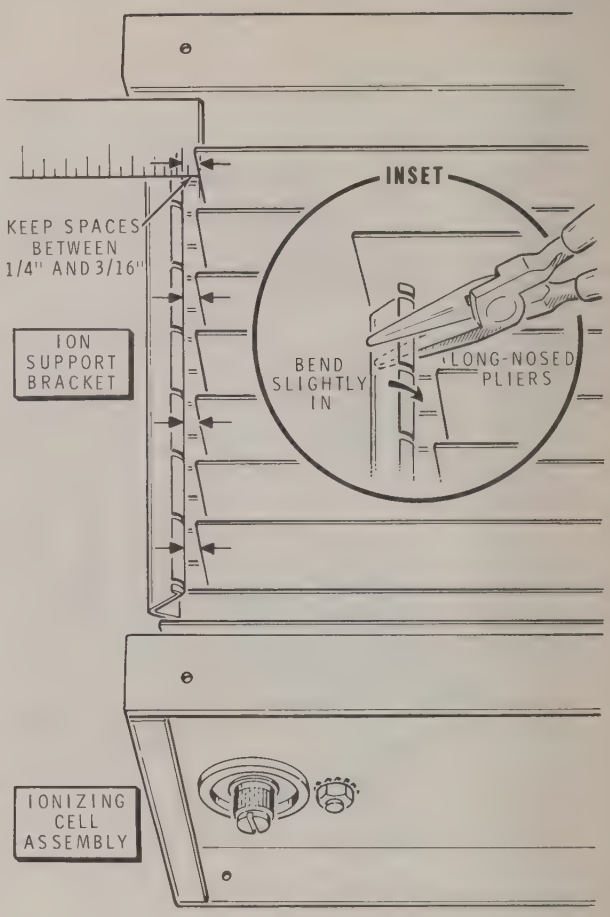
( ) Position the ionizing cell assembly as shown.

( ) Refer to Detail 2-4A and install the left ion support bracket on the left side of the cell assembly. Position the support bracket with the top grooves as shown. Insert the support bracket into the plate notches with the two spacers between the indicated plates. Press the support bracket in at the top until it is seated completely in the notches.

( ) Similarly, install the right ion support bracket on the right side of the cell assembly.



Detail 2-4B



Detail 2-4C

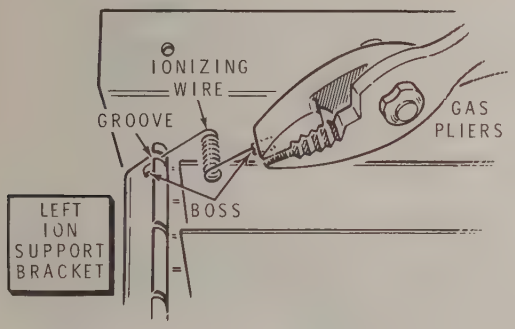
NOTE: Perform the following steps carefully.

( ) Refer to Detail 2-4B and firmly tap the left and right support brackets at the three indicated locations with a hammer. This will firmly seat the brackets in the plate notches.

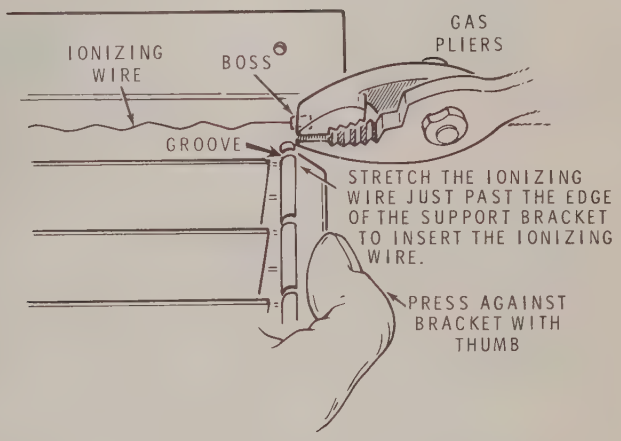
( ) Refer to Detail 2-4C and measure the space between the left ion support bracket and the edge of the ground plate at the four indicated locations. These spaces should be between 1/4" and 3/16". If both support brackets are within the indicated dimension, skip the following step. Otherwise, perform the step as follows. Read the step through before you perform it.

( ) Grasp the top end of the ion support bracket with long-nosed pliers as shown in the inset drawing. Hold a small ruler against the edge of the ground plate as shown in Detail 2-4C. Slowly bend the support bracket in the direction of the arrow until the indicated dimension is reached. Bend the bracket at each of the four indicated locations as necessary.

PART 1



PART 2

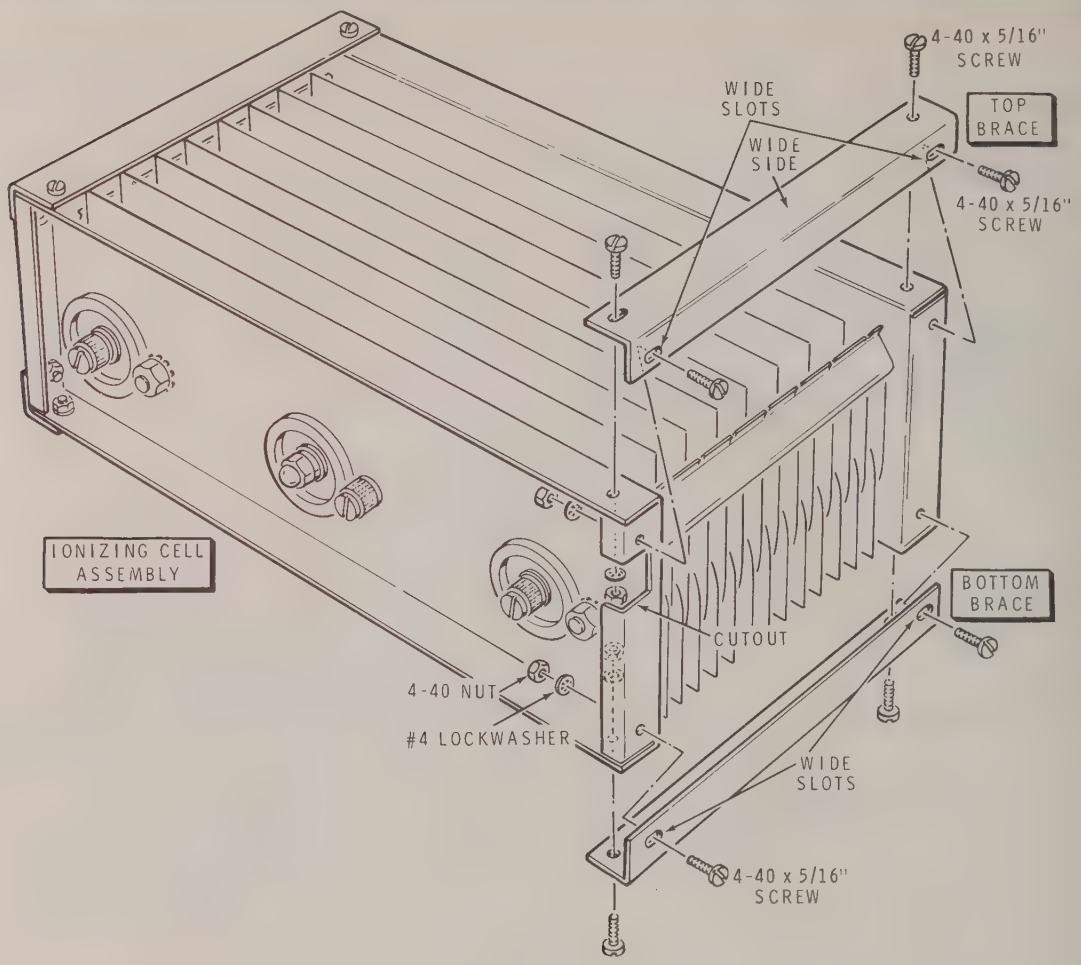


Detail 2-4D

( ) Refer to Detail 2-4D Part 1 and grasp the boss at either end of an ionizing wire with pliers as shown. Install the other end of the wire into the end groove of the left ion support bracket.

( ) Refer to Detail 2-4D Part 2 and press your thumb against the right ion support bracket while you pull the ionizing wire towards the bracket. Stretch the end of the wire until the boss is just past the top of the support bracket to insert the wire into the groove. Do not overstretch the wire or the boss may come loose. Press your thumb against the support bracket as you install the wire.

( ) Similarly install the remaining seven ionizing wires.



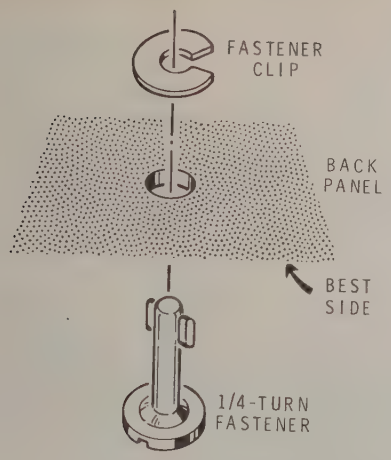
PICTORIAL 2-5

Refer to Pictorial 2-5 for the following steps.

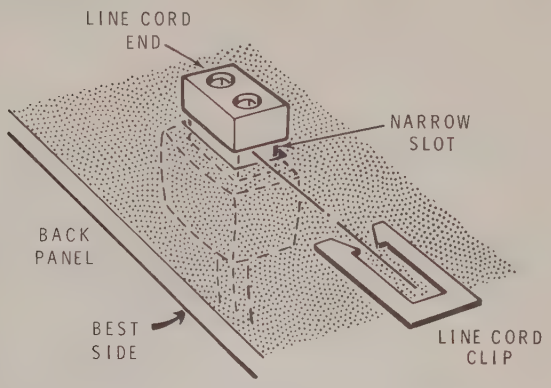
( ) Mount a top brace at each of the top ionizing cell assembly corners with four 4-40 × 5/16" screws, #4 lockwashers, and 4-40 nuts for each brace. Position the side of the brace with the two wide slots as shown. NOTE: This top brace has one side wider than the other.

( ) Similarly, mount a bottom brace at each of the bottom ionizing cell assembly corners with four 4-40 × 5/16" screws, #4 lockwashers, and 4-40 nuts for each brace. Position the side of the brace with the wide slots as shown.

This completes the "Ionizing Cell Assembly." Set it aside until it is called for later.



Detail 3-1A



Detail 3-1B

Refer to Pictorial 3-1 (Illustration Booklet, Page 13) for the following steps.

NOTE: Examine both sides of the back panel for tape marks or defects. Use the best side of the panel when you mount the components in the following steps.

( ) Position the back panel with the notch at the top as shown.

( ) Remove the backing paper from the back panel label and apply the label to the back panel at the indicated location.

NOTE: The blue and white label in the next step shows the Model Number and the Production Series Number of your kit. Refer to these numbers in any communications with the Heath Company; this assures you that you will recieve the most complete and up-to-date information in return.

( ) Remove the backing paper from the blue and white label and apply the label to the back panel at the indicated location.

( ) Refer to Detail 3-1A and insert a 1/4-turn fastener through one of the three indicated holes in the back panel. Then install a fastener clip as shown.

( ) Similarly, install the other two 1/4-turn fasteners and fastener clips in the remaining two round holes.

NOTE: If you have a 120 V, 60 Hz model, perform the following step. If you have a 240 V, 50 Hz back panel, skip the following step.

( ) Refer to Detail 3-1B and insert the indicated end of the line cord through the bottom opening in the back panel. Slide the line cord clip over the narrow part of the line cord end as shown.

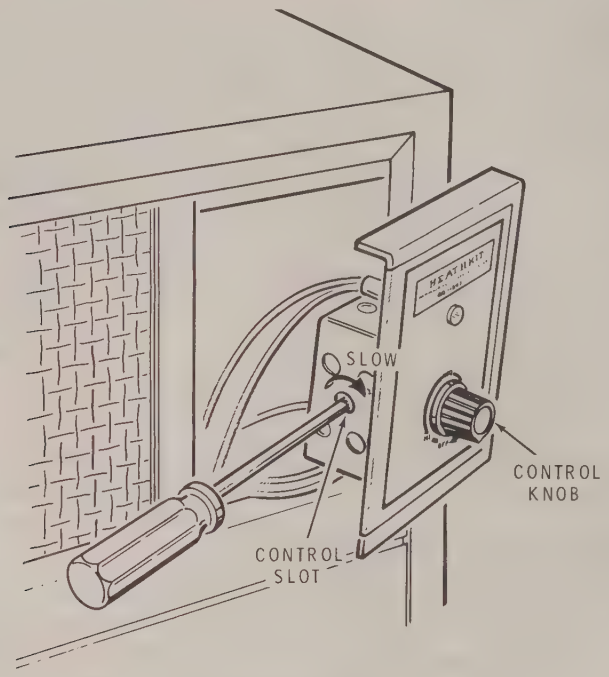
Refer to Pictorial 3-2 (Illustration Booklet, Page 13) for the following steps.

( ) Install the back panel on the rear of the cabinet. Insert the cutout at the top of the panel under the top mounting bracket. If you have a 120V, 60 Hz model, press the line cord into the AC interlock connector. If you have a 240V, 50 Hz model, refer to the inset drawing and insert the end of the line cord through the opening at the bottom of the back panel into the interlock connector. Position the center connector hole at the top pin as shown.

( ) Fasten the **bottom** 1/4-turn fastener. Do not fasten the other 1/4-turn fasteners at this time.

This completes the "Step-By-Step Assembly." Proceed to "Initial Tests."

INITIAL TESTS



PICTORIAL 4-1

NOTE: If you do not obtain the indicated results in the following steps, turn the unit off and disconnect the AC line cord from the AC outlet and refer to "In Case Of Difficulty."

Refer to Pictorial 4-1 for the following steps.

( ) Turn the front panel control knob counterclockwise (off) until it clicks.

( ) Plug the line cord into the appropriate AC outlet.

( ) Turn the control knob clockwise until it clicks (on). The fan should operate and the lamp should light.

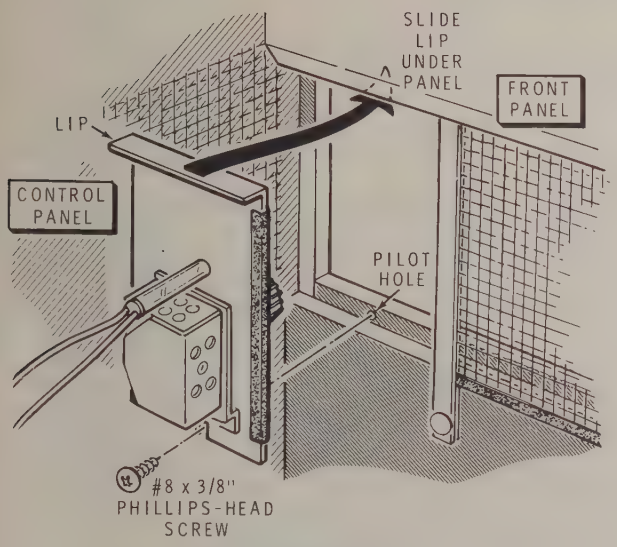
( ) Turn the control knob completely clockwise. The fan **may** slow down.

( ) Insert the blade of a small screwdriver into the control slot through the opening at the side of the control panel. Turn the control completely clockwise. The fan motor may or may not stop at this time. If your motor is stopped, turn the control slowly counterclockwise until the fan motor just starts. Then continue to turn the control an additional 1/8 to 1/4 turn. If your fan motor has not stopped, turn the control counterclockwise from 1/8 to 1/4 turn. Remove the screwdriver from the control slot. This sets the slow motor speed. NOTE: A slower fan motor speed does not move a significant amount of air and therefore will only reduce efficiency.

( ) Turn the control knob to the HI position and the fan should operate at its fast speed.

NOTE: The air cleaner is now adjusted to operate over its entire HI-LO range. If you desire a faster LO setting, set the control knob at its LO position and readjust the screwdriver control for the desired speed.

( ) Turn the unit off and disconnect the line cord from the AC wall outlet.



Detail 4-2A

Refer to Pictorial 4-2 (Illustration Booklet, Page 14) for the following steps.

( ) Remove the back panel from the cabinet.

( ) Refer to Detail 4-2A and carefully mount the control panel assembly to the inside of the cabinet front panel with a #8 × 3/8" phillips-head screw as shown. Align the panel mounting hole with the cabinet pilot hole. NOTE: If this panel fits tightly, use a screwdriver as a wedge at the bottom and pry up on the panel to slide it into place. Make sure the control panel is properly aligned from the front.

( ) Remove the charcoal filter from the plastic bag and install the filter in the narrow track of the cellguide brackets as far forward as possible.

( ) Position the ionizing cell assembly with the cutout and the airflow arrows as shown. Install the cell assembly in the wide track of the cellguide brackets as far forward as possible.

Refer to Pictorial 4-3 (Illustration Booklet, Page 15) for the following steps.

( ) Connect the free end of the red wire coming from fanboard hole F to the ⊕ **OUTPUT** tab on the power supply. Push the connector onto the tab as far as it will go.

( ) Install the back panel on the cabinet and lock the three 1/4-turn fasteners.

( ) Plug the line cord into the appropriate AC outlet.

NOTE: When you turn the air cleaner on in the following step, you will hear a snapping sound from inside the cabinet. This is normal and will occur occasionally during operation due to the ionizing of dust particles trapped in the cell. (This action is further explained in the "Operation" section of the Manual.)

Continuous snapping (arcing) is not normal. If this condition occurs, turn the unit off and refer to "In Case of Difficulty."

( ) Turn the control knob to on and leave it at the HI speed position. If there is an occasional snapping sound from inside the ionizing cell, the air cleaner is operating normally. If not, tap on the sides of the cabinet or against the back panel to cause dust to be drawn into the cell.

( ) Turn the control knob to off.

CAUTION: High amounts of ozone are generated during the 24-hour "burn in" period. Therefore, we recommend that you operate your Air Cleaner in a well-ventillated area for a 24-hour period. After this time, you may proceed to "Final Assembly."

This completes the "Initial Test." Proceed to "Final Assembly."

FINAL ASSEMBLY

Refer to Pictorial 5-1 (Illustration Booklet, Page 16) for the following steps.

( ) Install a 4" × 9-1/2" foam grille at each of the two side cabinet cutouts. Work the grille edges into the groove between the wire screen and cabinet until they are smooth and straight.

( ) Similarly, install the 5-1/2" × 13" foam grille into the grooves at the top cabinet opening of the front panel. Position the grooved side of the grille facing out as shown.

( ) Install the 12" × 15-3/4" foam grille into the grooves at the bottom cabinet opening of the front panel. Press the center area of the grille firmly against the grille fasteners. This will hold the grille in place during operation.

NOTE: If you have purchased the optional casters for your unit, install them in the following "Optional Caster Installation." Otherwise, proceed to Operation.

OPTIONAL CASTER INSTALLATION (GDA-1247-1)

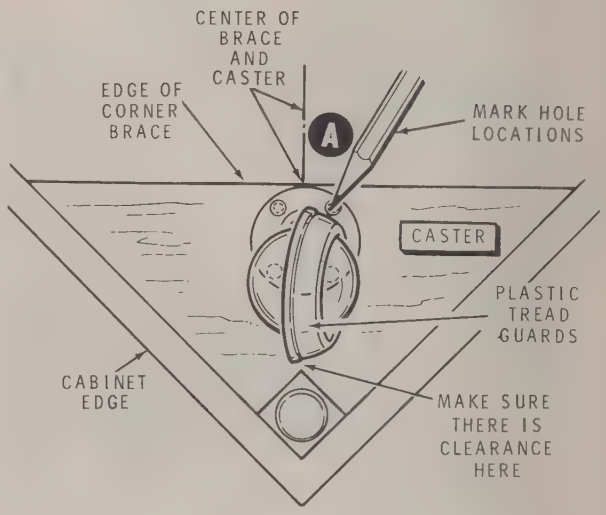
Refer to Pictorial 5-2 for the following steps.

( ) Unplug the line cord from the AC wall outlet.

NOTE: In the following steps, you will position the cabinet on its top upside down. Place a rug or a large padded cloth under the cabinet to prevent it from becoming scratched.

( ) Position the cabinet on its top.

( ) Refer to Detail 5-2A and position the center of the caster at the center of corner brace A. Keep the front edge of the caster even with the edge of the brace. Use a sharp pencil and mark the four hole locations.



Detail 5-2A

NOTE: If you do not drill the pilot holes in the following step, the wood screws may strip.

( ) Drill four 1/16" pilot holes at the marked locations. Drill the hole approximately 3/4" deep.

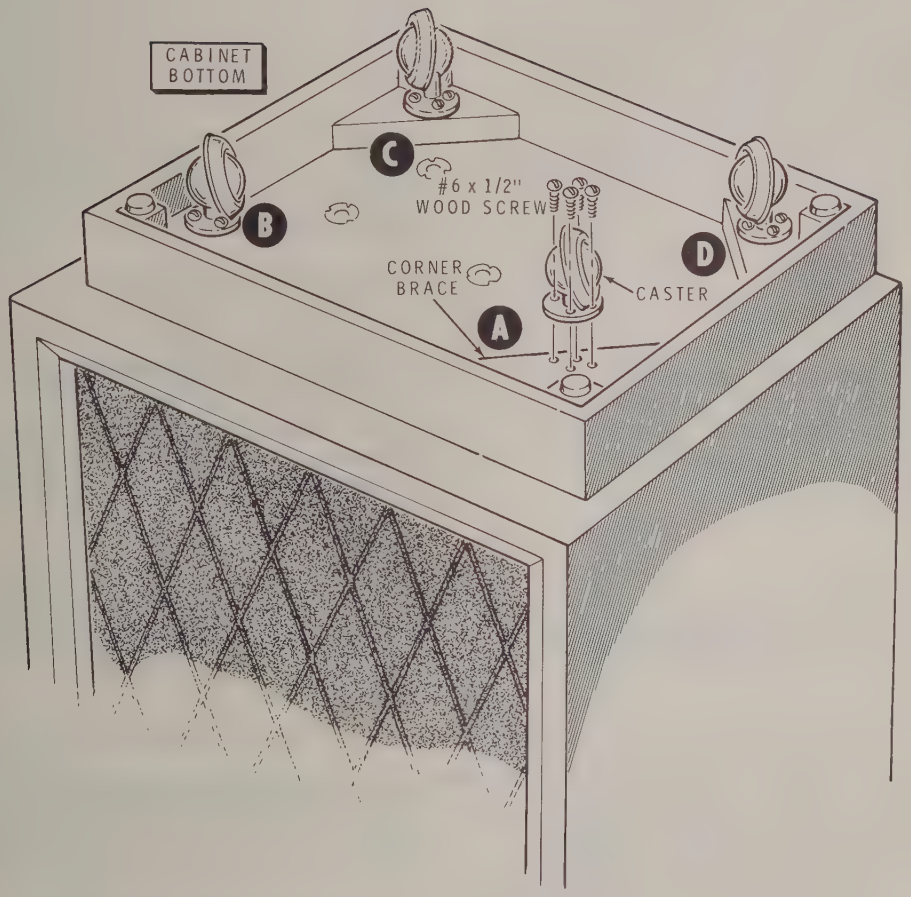
( ) Mount the caster at corner brace A with four #6 × 1/2" wood screws.

( ) Similarly, mount the remaining casters at corner braces B, C, and D.

NOTE: If you operate your Air Cleaner on a hardwood floor, we recommend that you do not remove the plastic tread guards from the casters. Use of the plastic tread guards on carpeted floors is optional.

( ) Check each caster and make sure it rotates freely and does not bind. Place the cabinet in its upright position.

This completes the "Final Assembly." Proceed to "Operation."



PICTORIAL 5-2

OPERATION

Refer to Pictorial 6-1 (Illustration Booklet, Page 16) as you read the following Operation.

Your GD-1247 Electrostatic Air Cleaner will operate almost anywhere in your living area as long as the air around it can circulate freely. It is recommended that you place the unit where activity is the most frequent such as the den, playroom, kitchen, or living room. For maximum efficiency in circulating clean air into the room and dirty air back into the unit, you should keep the front of the cabinet unobstructed by walls or furniture.

The Electrostatic Air Cleaner is designed to operate on ordinary house current. The line cord is attached to the back panel so that whenever you remove the back panel, electrical power is disconnected to the unit. However, for safety purposes, always unplug the line cord from the AC wall receptacle before you clean or perform any maintenance on the unit.

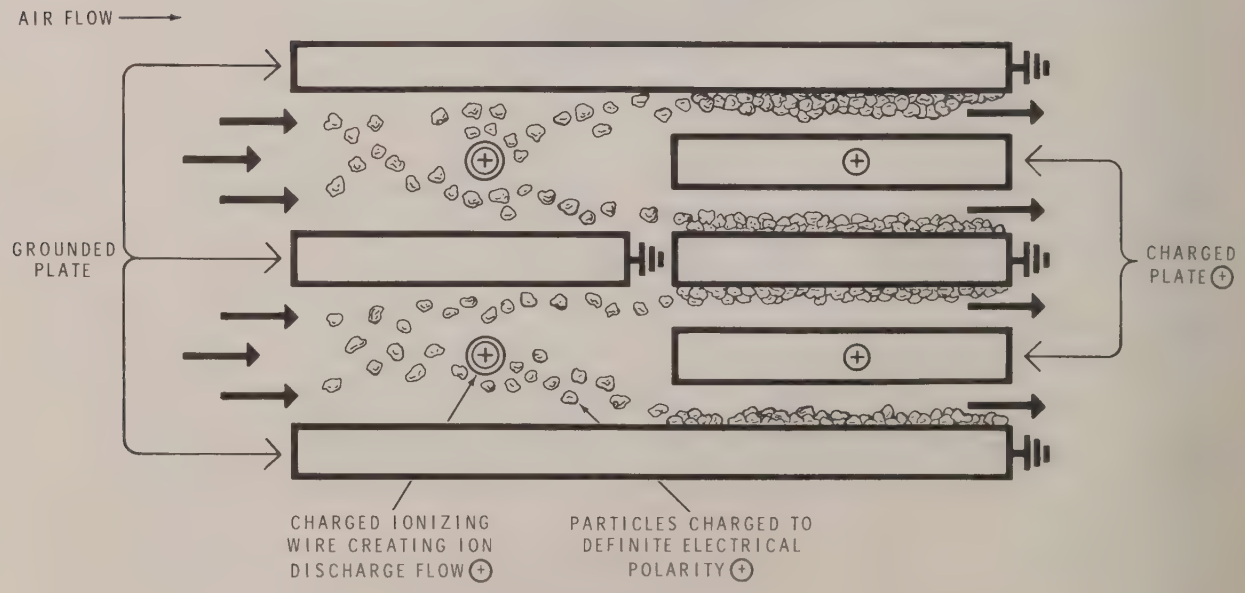
Turn the Air Cleaner on by rotating the control knob clockwise until the control clicks. The lamp will light to indicate normal operation of the ionizing cell. The fan speed will be on high and can be decreased by rotating the control knob further clockwise. Determine the optimum speed setting for your unit in relation to the area and contamination of air you wish to clean. Maximum fan speed will allow maximum cleaning capacity. After a short period of maximum cleaning, a midrange speed setting should suffice for most air cleaning conditions. For peak cleaning efficiency, leave the air cleaner on continuously.

IONIZING CELL OPERATION

Refer to Pictorial 6-2 for the following operation.

During operation of your Electrostatic Air Cleaner, pollution is drawn into the cabinet through the top openings. Once inside, the pollution particles be-

IONIZING COLLECTING PRINCIPLE


AIR FLOW
GROUNDED PLATE
CHARGED PLATE ⊕
CHARGED IONIZING WIRE CREATING ION DISCHARGE FLOW ⊕
PARTICLES CHARGED TO DEFINITE ELECTRICAL POLARITY ⊕

PICTORIAL 6-2

come "charged" with electricity as they pass through a section of positively charged ionizing wires. These positively charged particles then enter a collecting section with alternately charged positive and negative (grounded) collecting plates. The particles are repelled by the positive plates and attracted by the negative plates. The particles attach themselves to the negative collecting plates and remain there through natural adhesion until they are removed during cleaning (see Care and Cleaning). At times, you will notice an occasional snapping sound coming from inside the cabinet. This is called "arcing" and results from large particles of dust being collected in the ionizing cell. (NOTE: As the ionizing cell becomes dirty, the arcing will become more frequent.) The now cleaned air returns to the room through the bottom front grille.

It is normal for the pilot light to dim or flicker when an arc occurs. If the pilot light does not light or goes out during operation, the ionizing cell assembly should be removed for cleaning and inspection.

CARE AND CLEANING

Cabinet

Treat the cabinet of your Electrostatic Air Cleaner as you would any other fine piece of furniture. Soft cloths and mild nonabrasive cleaners will keep your cabinet clean and attractive for years.

Ionizing Cell

After several weeks of collecting dust, dirt, pollen, and other pollution, it will become necessary to clean the ionizing cell of your Air Cleaner. To clean the cell, perform the following steps:

1. Turn the Air Cleaner off and unplug it from the AC wall outlet.

2. Loosen the three 1/4-turn fasteners on the back panel with a coin or a screwdriver and remove the back panel from the cabinet.

3. Remove the ionizing cell from the cabinet.

NOTE: Use extreme care when you handle the ionizing cell so you do not damage the ionizing wires or bend any of the metal plates.

4. Perform this step only if you have a dishwasher. Otherwise, skip the step. Place the ionizing cell carefully on a dishwasher rack. Use an automatic dishwasher detergent and the hottest water setting. When the cell is completely washed, remove the cell from the dishwasher. Allow the cell to dry **completely** before you reinstall it in the cabinet. Refer to step 6.

5. Place the ionizing cell in a laundry tub or large basin. Use an automatic diswasher detergent and the hottest water available and let the cell soak for 20 to 30 minutes. After the cell has soaked, agitate it vigorously for a minute or so until the plates are clean. Rinse the cell in clear hot water for an additional 5 to 10 minutes, then shake the majority of the water out of the cell and allow it to dry **completely** before you reinstall it in the cabinet.

6. Replace the ionizing cell back in the cabinet. Make sure you position the cutout and airflow arrows correctly (refer to Pictorial 4-2 (Illustration Booklet, Page 14).

Motor

Apply a drop or two of oil (SAE 20) into the two oil hole locations of the motor every 6 months.

Foam Grille

When the foam grilles become dirty, remove them and soak them in a mild detergent solution. Press the excess water out with a towel or large cloth and allow the grilles to dry. **DO NOT TWIST (WRING) THE GRILLES DRY**. Replace the grilles in the cabinet.

CHARCOAL FILTER (GDA-1247-2)

The activated charcoal filter is used to absorb odors. As the filter loses its effectiveness, it should be replaced. **IT CANNOT BE CLEANED**. Under normal conditions, the filter should be replaced every six months. The filter can be ordered from the Heath Company under the model number shown above or in the Parts List.

IN CASE OF DIFFICULTY

WARNING: DANGEROUS VOLTAGES ARE PRESENT INSIDE THE CABINET. DO NOT ATTEMPT TO DEFEAT THE AC INTERLOCK ON THE BACK PANEL.

Under no circumstances apply power to the Electronic Air Cleaner with the back panel either partially or completely removed. Under **NORMAL** operation, never remove any of the foam grilles from the cabinet or place any objects through the wire screens. If an occasion occurs where you must observe the ion cell with the unit turned on, remove either of the top side foam grilles. Always disconnect the AC line cord from the wall outlet before you remove the back panel for cleaning or maintenance.

This part of the Manual will help you locate and troubleshoot difficulties which may occur in your Electrostatic Air Cleaner. The first section is of a general nature and consists of a visual check and inspection. The second section is a "Troubleshooting Chart" which contains a series of "Symptoms" and "Possible Causes." Start your troubleshooting procedure by first reading the following "General" section. Then proceed to the appropriate "Symptom" and "Possible Cause."

GENERAL

Visual Checks

1. Recheck the wiring and make sure connections are tight.

2. Check for hardware and other foreign matter which may be lodged in the cell.

Troubleshooting Chart

The following chart lists the possible causes of specific malfunctions. If a particular part is mentioned as a possible cause, check the part and the wiring to it. It is also possible, on rare occasions, for a part to be faulty and require replacement.

In an extreme case where you are unable to resolve the difficulty, refer to the "Customer Service" information inside the rear cover of the Manual. Your Warranty is located inside the front cover.

SYMPTOM	POSSIBLE CAUSE
Unit inoperative.	1. Check wiring to power supply. 2. Check wiring to AC interlock connector. 3. Line cord improperly installed.
Fan works, pilot light out.	1. Cell is shorted. 2. Check for improper wiring, defective power supply, or defective light.
Pilot light on, fan inoperative.	1. Wiring to motor loose. 2. Defective motor.
Fan speed will not vary.	1. Defective speed control.
Continuous arcing inside ion cell.	1. Cell is dirty. 2. Ion support brackets too close to external ground plates.

SPECIFICATIONS

Air Flow	Variable; less than 100 CFM* to 250 CFM.
Efficiency	70% @ 250 CFM. 90% @ 100 CFM.
Performance	99%** of all airborne pollen. 94%** of general airborne particles.
Ozone	Less than .05 PPM† (.03 PPM typical).
Filter Units (2)	Ionizing cell. Activated Charcoal Filter.
Power Supply	6400V DC @ .4 mA.
Cabinet Finish	Southern Pecan Vinyl.
Cabinet Size	26-3/4″ high × 17-3/8″ wide × 13-1/2″ deep. (67.9 × 44.1 × 34.3 cm).
Net Weight	49 lbs. (22.2 kg).
Power Requirements	120V, 60 Hz @ 175 watts. 240V, 50 Hz @ 175 watts.

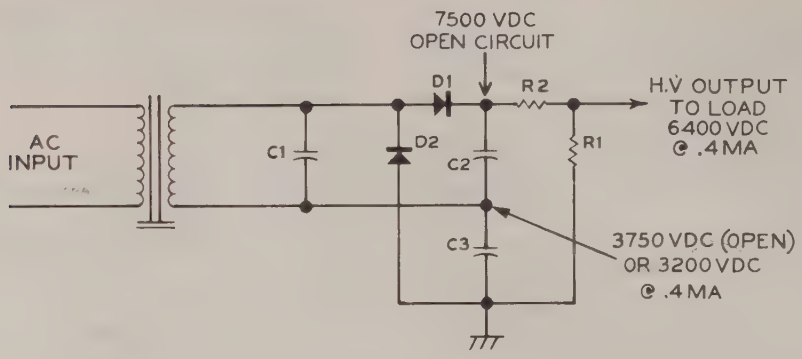
*Cubic Feet Per Minute.

**National Bureau of Standards Dust Spot Method and American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 52-68.

†Parts Per Million.

The Heath Company reserves the right to discontinue products and to change specifications at any time without incurring any obligation to incorporate new features in products previously sold.

CIRCUIT DESCRIPTION



PICTORIAL 6-3

Refer to the Schematic Diagram (Pictorial 6-3) as you read the following Circuit Description.

The power supply in the GD-1247 Electronic Air Cleaner is an energy-limited high voltage type which consists of a shunted core (ferroresonant) transformer, resonating capacitor, and a solid-state component section for rectification and filtering. These will be discussed in detail in the following paragraphs.

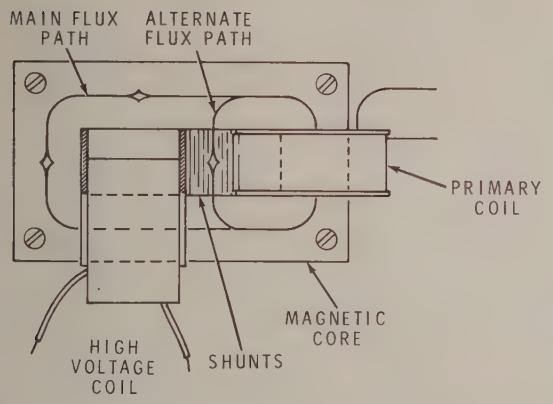
RECTIFICATION AND FILTERING

The rectifier and filter section is made up of diodes D1, D2, and capacitors C2 and C3. This is a conventional symmetrical voltage doubler. Resistor R1 is used to bleed the charge on capacitors C2, C3, and the load, to zero when the AC power to the unit is turned off. Resistor R2 acts as a surge suppressor which limits the amplitude of capacitors C2 and C3 when the load shorts or arcs.

SHUNTED CORE TRANSFORMER

A shunted core transformer (Pictorial 6-4) is used to provide electrical isolation and energy limiting. The low voltage input coil is located on one leg of the core, and the high voltage coil is located on another leg. Shunts physically isolate the two coils. This provides two energy paths for the flux generated by the primary coil: one through the core leg that the high voltage coil is mounted on, and the other through the shunts. During normal operation, nearly all the flux generated by the primary goes through the leg coupling the high voltage output coil, and energy is delivered to the load. Very little flux flows through the core shunts because this path presents a high reluctance compared to the high voltage leg.

When the load arcs, or shorts, a short is reflected to the high voltage coil terminals which increases the reluctance of the high voltage leg of the transformer core. The shunt path now has less reluctance than the high



PICTORIAL 6-4

voltage leg, and nearly all the flux generated by the primary coil is shunted around the high voltage coil. Very little is transferred to the load. When the short is removed from the load, the system automatically recovers. This provides short circuit protection and energy limiting magnetically.

Capacitor C1 is in parallel with the high voltage coil and forms a tuned circuit that is resonant at, or near, the operating power frequency. This facilitates maximum transfer of energy from the primary to the secondary circuit. During each half cycle of the input power frequency, energy is alternately stored in resonant capacitor C1 and then given back up to the electromagnetic field of the high voltage coil. This causes the secondary flux path of the transformer core to operate in a condition of saturation. Since the core is saturated, the unit becomes a magnetic voltage regulator. Large changes in input voltage produce only small changes in output voltage.

The unit also regulates with load changes. As load current is increased beyond its linear operating region, a point is reached beyond which the current cannot be increased. Continued reduction in load impedance will cause the load current to decrease. A shorted load draws very little current. This characteristic is referred to as ferroresonant foldback. During a shorted condition, very little power is transferred from the primary to the secondary circuit, and the input current to the transformer actually decreases. This makes the system inherently "burnout" proof, and so, does not require short circuit protection.

FOR PARTS REQUESTS ONLY

- Be sure to follow instructions carefully.
- Use a separate letter for all correspondence.
- Please allow 10 - 14 days for mail delivery time.

DO NOT WRITE IN THIS SPACE

INSTRUCTIONS

- Please print all information requested.
- Be sure you list the correct **HEATH** part number exactly as it appears in the parts list.
- If you wish to prepay your order, mail this card and your payment in an envelope. Be sure to include 10% (25¢ minimum, $3.50 maximum) for insurance, shipping and handling. Michigan residents add 4% tax.

  Total enclosed $_____
- If you prefer COD shipment, check the COD box and mail this card. COD ☐

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

The information requested in the next two lines is not required when purchasing nonwarranty replacement parts, but it can help us provide you with better products in the future.

Model # _____ Invoice # _____

Date Purchased _____ Location Purchased _____

LIST **HEATH** PART NUMBER	QTY.	PRICE EACH	TOTAL PRICE
TOTAL FOR PARTS			
HANDLING AND SHIPPING			
MICHIGAN RESIDENTS ADD 4% TAX			
TOTAL AMOUNT OF ORDER			

SEND TO: **HEATH COMPANY**
BENTON HARBOR
MICHIGAN 49022
ATTN: PARTS REPLACEMENT

Phone (Replacement parts only): 616 982-3571

THIS FORM IS FOR U.S. CUSTOMERS ONLY
OVERSEAS CUSTOMERS SEE YOUR DISTRIBUTOR

CUT ALONG DOTTED LINE

FOR PARTS REQUESTS ONLY

- Be sure to follow instructions carefully.
- Use a separate letter for all correspondence.
- Please allow 10 - 14 days for mail delivery time.

DO NOT WRITE IN THIS SPACE

INSTRUCTIONS

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- Be sure you list the correct **HEATH** part number exactly as it appears in the parts list.
- If you wish to prepay your order, mail this card and your payment in an envelope. Be sure to include 10% (25¢ minimum, $3.50 maximum) for insurance, shipping and handling. Michigan residents add 4% tax.

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BENTON HARBOR
MICHIGAN 49022
ATTN: PARTS REPLACEMENT

Phone (Replacement parts only): 616 982-3571

THIS FORM IS FOR U.S. CUSTOMERS ONLY
OVERSEAS CUSTOMERS SEE YOUR DISTRIBUTOR

CUSTOMER SERVICE

REPLACEMENT PARTS

Please provide complete information when you request replacements from either the factory or Heath Electronic Centers. Be certain to include the **HEATH** part number exactly as it appears in the parts list.

ORDERING FROM THE FACTORY

Print all of the information requested on the parts order form furnished with this product and mail it to Heath. For telephone orders (parts only) dial 616 982-3571. If you are unable to locate an order form, write us a letter or card including:

- Heath part number.
- Model number.
- Date of purchase.
- Location purchased or invoice number.
- Nature of the defect.
- Your payment or authorization for COD shipment of parts not covered by warranty.

Mail letters to: Heath Company
Benton Harbor
MI 49022
Attn: Parts Replacement

Retain original parts until you receive replacements. Parts that should be returned to the factory will be listed on your packing slip.

OBTAINING REPLACEMENTS FROM HEATH ELECTRONIC CENTERS

For your convenience, "over the counter" replacement parts are available from the Heath Electronic Centers listed in your catalog. Be sure to bring in the original part and purchase invoice when you request a warranty replacement from a Heath Electronic Center.

TECHNICAL CONSULTATION

Need help with your kit? — Self-Service? — Construction? — Operation? — Call or write for assistance. you'll find our Technical Consultants eager to help with just about any technical problem except "customizing" for unique applications.

The effectiveness of our consultation service depends on the information you furnish. Be sure to tell us:

- The Model number and Series number from the blue and white label.
- The date of purchase.
- An exact description of the difficulty.
- Everything you have done in attempting to correct the problem.

Also include switch positions, connections to other units, operating procedures, voltage readings, and any other information you think might be helpful.

Please do not send parts for testing, unless this is specifically requested by our Consultants.

Hints: Telephone traffic is lightest at midweek — please be sure your Manual and notes are on hand when you call.

Heathkit Electronic Center facilities are also available for telephone or "walk-in" personal assistance.

REPAIR SERVICE

Service facilities are available, if they are needed, to repair your completed kit. (Kits that have been modified, soldered with paste flux or acid core solder, cannot be accepted for repair.)

If it is convenient, personally deliver your kit to a Heathkit Electronic Center. For warranty parts replacement, supply a copy of the invoice or sales slip.

If you prefer to ship your kit to the factory, attach a letter containing the following information directly to the unit:

- Your name and address.
- Date of purchase and invoice number.
- Copies of all correspondence relevant to the service of the kit.
- A brief description of the difficulty.
- Authorization to return your kit COD for the service and shipping charges. (This will reduce the possibility of delay.)

Check the equipment to see that all screws and parts are secured. (Do not include any wooden cabinets or color television picture tubes, as these are easily damaged in shipment. Do not include the kit Manual.) Place the equipment in a strong carton with at least THREE INCHES of *resilient* packing material (shredded paper, excelsior, etc.) on all sides. Use additional packing material where there are protrusions (control sticks, large knobs, etc.). If the unit weighs over 15 lbs., place this carton in another one with 3/4" of packing material between the two.

Seal the carton with reinforced gummed tape, tie it with a strong cord, and mark it "Fragile" on at least two sides. Remember, the carrier will not accept liability for shipping damage if the unit is insufficiently packed. Ship by prepaid express, United Parcel Service, or insured Parcel Post to:

Heath Company
Service Department
Benton Harbor, Michigan 49022

HEATH

Schlumberger

MP MASTER

MA22788

HEATH COMPANY • BENTON HARBOR, MICHIGAN

THE WORLD'S FINEST ELECTRONIC EQUIPMENT IN KIT FORM

LITHO IN U.S.A.